PATENT 600-1-087 CIP1CON

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Jeffrey M. Friedman et al.

SERIAL NO.: 09/635,864 EXAMINER: Christine J. Saoud

FILED: August 10, 2000 ART UNIT: 1647

FOR: OB POLYPEPTIDES, MODIFIED FORMS AND COMPOSITIONS

(As Amended)

CERTIFICATE OF MAILING UNDER 37 CFR 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, DC 20231 on May 28, 2002.

David A. Jackson, Reg. No. 26,742 (Name of Registered Representative)

Martha Bussanich 5/28/02 (Signature and Date)

RESPONSE TO RESTRICTION REQUIREMENT

Commissioner of Patents
Washington, D.C. 20231

07/03/2002 LPENDER 00000001 111153 09635864
01 FC:128 Dear Sir:

This is in response to the Office Action dated November 28, 2001, setting forth a restriction requirement received in the above-referenced application. The date for responding to this action is May 28, 2002, by virtue of the attached petition and fee for a three-month extension of time to respond.

I. Election of Group I

Adjustment date: 07/19/2002 JWASHING 09635864
07/03/2002 LPENDER 00000001 111153
01 FC:128 1960.00 CR

The Examiner set forth an eleven-way restriction requirement. Applicants herewith elect the claims of **Group I** directed to polynucleotides, host cells and recombinant methods of protein production, *i.e.*, claims 1-14, and 23-27. This election is made without traverse. Applicants withdraw claims 15-22 and 28-58 from consideration, without prejudice or disclaimer, as being directed to non-elected subject matter. Applicants reserve the right to prosecute these withdrawn claims in further divisional applications at a later date.

II. Amendment

After election of Group I claims, Applicants request that claims 1-14 and 23-27 be canceled and the following new set of claims be inserted therefor:

59. (NEW) An isolated nucleic acid molecule selected from the group consisting of:

a) a nucleic acid having the sequence of SEQ ID NO:1;

b) a nucleic acid molecule having the sequence of SEQ ID NO:3;

c) a nucleic acid molecule having the sequence of SEQ ID NO:22; and

d) a nucleic acid sequence that hybridizes to any one of the nucleic acids of (a), (b), and (c) and

e) a nucleic acid sequence that encodes an expression product of an amino acid sequence encoded by any of the foregoing nucleic acid sequences.

60. (NEW) An isolated nucleic acid molecule that encodes an OB polypeptide capable of modulating body weight, having one or more polymers attached thereto, optionally in a pharmaceutical carrier, wherein said OB polypeptide encoded by said isolated nucleic acid is a mammalian OB polypeptide having the sequence of a naturally occurring mammalian OB polypeptide and having as a mature protein about 145 amino acids.

61. (NEW) An isolated nucleic acid molecule that encodes an OB polypeptide capable of modulating body weight, having one or more polymers attached thereto, optionally in a pharmaceutical carrier, wherein said OB polypeptide encoded by said isolated nucleic acid comprises the amino acid sequence set out in:

a) SEQ ID NO:2;

b) amino acids 22-167 of SEQ ID NO:2;

c) SEQ ID NO:4 or

d) amino acids 22-167 of SEQ ID NO:4.

62. (NEW) An isolated nucleic acid molecule that encodes an OB polypeptide capable of modulating body weight, having one or more polymers attached thereto, optionally in a pharmaceutical carrier, wherein said OB polypeptide encoded by said isolated nucleic acid comprises the amino acid sequence set out in

a) SEQ ID NO:5;

b) amino acids 22-166 of SEQ ID NO:5;

c) SEQ ID NO:6 or

d) amino acids 22-166 of SEQ ID NO:6.

63. (NEW) An isolated nucleic acid molecule that encodes an OB polypeptide capable of modulating body weight, having one or more polymers attached thereto, optionally in a pharmaceutical carrier, wherein said OB polypeptide encoded by said isolated nucleic acid has 83 percent or greater amino acid sequence identity to the OB polypeptide amino acid sequence set out in SEQ ID NO:2, 4, 5 or 6.

64. (NEW) An isolated nucleic acid molecule that encodes an OB polypeptide, capable of modulating body weight, having one or more polymers attached thereto, optionally in a pharmaceutically acceptable carrier, wherein said OB polypeptide encoded by said isolated nucleic acid is an OB polypeptide variant in which one or more amino acids selected from the group consisting of amino acids 53, 56, 71, 85, 89, 92, 95, 98, 110, 118, 121, 122, 126, 127, 128, 129, 132, 139, 157, 159, 163 and 166, according to the numbering of SEQ ID NO: 4, is substituted with a conserved amino acid.

65. (NEW) An isolated nucleic acid molecule that encodes an isolated nucleic acid molecule that encodes an OB polypeptide, capable of modulating body weight, having one or more polymers attached thereto, optionally in a pharmaceutically acceptable carrier, wherein said OB polypeptide encoded by said isolated nucleic acid is an OB polypeptide variant in which one or more of amino acids selected from the group consisting of amino acids 53, 56, 71, 85, 89, 92, 95, 98, 110, 121, 122, 127, 128, 129, 139, 157, 159 and 163, according to the numbering of SEQ ID NO: 4, is substituted with the particular amino acid present at the corresponding position in SEQ ID NO: 2.

66. (NEW) An isolated nucleic acid molecule that encodes an OB polypeptide, capable of modulating body weight, having one or more polymers attached thereto, optionally in a pharmaceutically acceptable carrier, wherein said OB polypeptide encoded by said isolated nucleic acid is an OB polypeptide variant in which one or more of amino acids selected from the group consisting of amino acids 52, 55, 70, 84, 88, 91, 94, 97, 109, 117, 120, 121, 125, 126, 127,

128, 131, 138, 156, 158, 162 and 165, according to the numbering of SEQ ID NO: 6, is substituted with a conserved amino acid.

67. (NEW) An isolated nucleic acid molecule that encodes an OB polypeptide, capable of modulating body weight, having one or more polymers attached thereto, optionally in a pharmaceutically acceptable carrier, wherein said OB polypeptide encoded by said isolated nucleic acid is an OB polypeptide variant in which one or more of amino acids selected from the group consisting of amino acids 52, 55, 70, 84, 88, 91, 94, 97, 109, 120, 121, 125, 126, 127, 128, 138, 156, 158 and 162, according to the numbering of SEQ ID NO: 6, is substituted with the particular amino acid at the corresponding position in SEQ ID NO: 5.

68. (NEW) The nucleic acid of any of claims 59 to 67, wherein at least one of said polymers is a polyamino acid.

69. (NEW) The nucleic acid of claim 68, wherein said polyamino acid is N-terminally attached to said polypeptide.

70. (NEW) The nucleic acid of claim 68, wherein said polyamino acid is C-terminally attached to said polypeptide.

71. (NEW) The nucleic acid of any one of claim 59 to 70, wherein said nucleic acid is selected from the group consisting of DNA or RNA.

72. (NEW) The nucleic acid of any one of claims 59 to 70, wherein said nucleic acid is detectably labeled.

73. (NEW) A cloning vector comprising a nucleic acid of any one of claims 59 to 70.

74. (NEW) An expression construct comprising a nucleic acid molecule of any one of claims 59 to 70 operatively associated with an expression control sequence.

75. (NEW) The expression vector of claim 74, wherein said expression control sequence is selected from the group consisting of cytomegalovirus hCMV immediate early gene, the early or late promoters of SV40 or adenovirus, the lac system, the trp system, the TAC system, the major operator and promoter regions of phage λ, the control regions of fd coat protein, the promoter for 3-phosphoglycerate kinase, the promoters of acid phosphatase, and the promoters of the yeast α-mating factors.

76. (NEW) A unicellular host transfected with a cloning vector of claim 73.

77. (NEW) A host cell transformed with an expression construct of claim 74.

78. (NEW) The host cell of claim 77, wherein said host cell is selected from the group consisting of *E. coli*, *Pseudomonas*, *Bacillus*, *Streptomyces*, Pichia yeasts, CHO, R1.1, B-W, L-M, COS-1, COS-7, BSC1, BSC40, BMT10 and cells, plant cells, insect cells and human cells in tissue culture.

79. (NEW) A method for preparing an OB polypeptide comprising:

a) culturing a host cell of claim 76 or 77 under conditions that allow the expression of said OB polypeptide; and

b) recovering the expressed OB polypeptide.

80. (NEW) The method of claim 79, wherein said host cell is a bacterial cell.

81. (NEW) The method of claim 79, wherein the host cell is a yeast cell.

82. (NEW) The method of claim 79, further comprising:

c) chromatographing the polypeptide on a Ni-chelation column; and

d) purifying the polypeptide by gel filtration.

83. (NEW) The method of claim 82, further comprising after step (c) and prior to step (d), chromatographing the OB polypeptide on a strong cation exchanger column.

III. Additional Remarks

Applicants have canceled claims 1-14 and 23-27, without prejudice or disclaimer and inserted therefore new claims 59-83. Applicants request examination of these new claims. The new claims are fully supported by the specification as filed and entry of these new claims does not constitute an introduction of new matter into the instant application.

New claims 59-70 are directed to nucleic acids and correspond to the polypeptide claims that have been indicated as allowed in the parent application U.S. Serial No. 08/438,431, in which the issue fee was paid August 20, 2000. The new claims 59-70 in the present case correspond to the allowed claims from U.S. Serial No. 08/438,431 as follows:

Claims indicated as allowed in 08/438,431	Corresponding new claim presented herein
81	60

82	61
83	62
84	63
85	64
86	65
87	66
88	67
97	68
99	69
100	70

New claims 71-83 are re-written from the claims of Group I of the instant case in order to correct antecedent basis and certain grammatical errors. Applicants have presented these claims as new claims rather than amending the preexisting claims for purposes of clarity. The new claims 71-83 presented above correspond to the claims of Group I as follows:

Canceled Group I Claim	**Replaced By Claim:**
Claim 1	59
Claims 2 and 3	60-67
4	71
5	see claims 60-67
6	see claims 60-67
7	72
8	73
9	74
10	75
12	76
13	77
14	78
23	79
24	80
25	81
26	82
27	83

Applicants respectfully request entry of the foregoing amendments and remarks in the file history of the instant Application. The claims as presented herein are believed to be in condition for allowance, and early indication of such a favorable indication is respectfully requested.

Should the Examiner wish to discuss the case further, she is invited to call the undersigned at the number listed below.

Respectfully submitted,

DAVID A. JACKSON
Attorney for Applicant
Registration No. 26,742

KLAUBER & JACKSON
411 Hackensack Avenue
Hackensack, New Jersey 07601
(201) 487 5800
May 28, 2002